

**BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING SEPTEMBER 24, 2020**

CASE No. 21356

BALL 183529 2H WELL

LEA COUNTY, NEW MEXICO



**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES
OPERATING, LLC FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO**

CASE NO. 21356


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COMPULSORY POOLING APPLICATION CHECKLIST

ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS

Case: 21356	APPLICANT'S RESPONSE
Date: September 24, 2020	
Applicant	Catena Resources Operating, LLC
Designated Operator & OGRID (affiliation if applicable)	Catena Resources Operating, LLC (OGRID No. 328449)
Applicant's Counsel:	Holland & Hart LLP
Case Title:	APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.
Entries of Appearance/Intervenors:	Marathon Oil Permian, LLC
Well Family	Ball 183529 2H
Formation/Pool	
Formation Name(s) or Vertical Extent:	Bone Spring Formation
Primary Product (Oil or Gas):	Oil
Pooling this vertical extent:	Bone Spring Formation
Pool Name and Pool Code:	Scharb; Bone Spring (55610)
Well Location Setback Rules:	Statewide horizontal oil well rules
Spacing Unit Size:	640-acres, more or less
Spacing Unit	
Type (Horizontal/Vertical)	Horizontal well spacing unit
Size (Acres)	640 acres, more or less
Building Blocks:	quarter-quarter sections
Orientation:	South to North
Description: TRS/County	E/2 of Sections 20 and 29, T-18-S, R-35-E, NMPM, Lea County, New Mexico.
Standard Horizontal Well Spacing Unit (Y/N), If No, describe	Yes
Other Situations	
Depth Severance: Y/N. If yes, description	None
Proximity Tracts: If yes, description	W/2 E/2 Sections 20 and 29
Proximity Defining Well: if yes, description	Ball 183529 2H
Applicant's Ownership in Each Tract	Exhibit A-3
Well(s)	
Name & API (if assigned), surface and bottom hole location, footages, completion target, orientation, completion status (standard or non-standard)	Add wells as needed
Well #1	Ball 183529 2H (API # Pending) SHL: 190' FNL & 1350' FEL (Unit B), Sec. 32, T18S, R35E BHL: 100' FNL & 1250' FEL (Unit A), Sec. 20, T18S, R35E Completion target: Bone Spring Well orientation: South to North Completion location: expected to be standard
Horizontal Well First and Last Take Points	See Exhibit A-1
Completion Target (Formation, TVD and MD)	See Exhibit B
AFE Capex and Operating Costs	
Drilling Supervision/Month \$	\$8,000
Production Supervision/Month \$	\$800
Justification for Supervision Costs	See Exhibit A

Requested Risk Charge	200%
Notice of Hearing	
Proposed Notice of Hearing	Exhibit C
Proof of Mailed Notice of Hearing (20 days before hearing)	Exhibit C
Proof of Published Notice of Hearing (10 days before hearing)	N/A
Ownership Determination	
Land Ownership Schematic of the Spacing Unit	Exhibit A-3
Tract List (including lease numbers and owners)	Exhibit A-3
Pooled Parties (including ownership type)	Exhibit A-3
Unlocatable Parties to be Pooled	N/A
Ownership Depth Severance (including percentage above & below)	N/A
Joinder	
Sample Copy of Proposal Letter	Exhibit A-4
List of Interest Owners (ie Exhibit A of JOA)	Exhibit A-3
Chronology of Contact with Non-Joined Working Interests	Exhibit A-5
Overhead Rates In Proposal Letter	Exhibit A-4
Cost Estimate to Drill and Complete	Exhibit A-4
Cost Estimate to Equip Well	Exhibit A-4
Cost Estimate for Production Facilities	Exhibit A-4
Geology	
Summary (including special considerations)	Exhibit B
Spacing Unit Schematic	Exhibit A-2
Gunbarrel/Lateral Trajectory Schematic	Exhibit A-2
Well Orientation (with rationale)	Exhibit B-1
Target Formation	Exhibit B
HSU Cross Section	Exhibit B-2
Depth Severance Discussion	N/A
Forms, Figures and Tables	
C-102	Exhibit A-1
Tracts	Exhibit A-3
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit A-3
General Location Map (including basin)	Exhibit A-2
Well Bore Location Map	Exhibit A-2
Structure Contour Map - Subsea Depth	Exhibit B-1
Cross Section Location Map (including wells)	Exhibit B-1
Cross Section (including Landing Zone)	Exhibit B-2
Additional Information	
Special Provisions/Stipulations	None
CERTIFICATION: I hereby certify that the information provided in this checklist is complete and accurate.	
Printed Name (Attorney or Party Representative):	Kaitlyn A. Luck
Signed Name (Attorney or Party Representative):	
Date:	21-Sep-20

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES
OPERATING, LLC FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO.**

CASE NO. 21356

APPLICATION

Catena Resources Operating, LLC (“Applicant”) (OGRID No. 328449), through its undersigned attorneys, hereby files this application with the Oil Conservation Division pursuant to the provisions of NMSA 1978, § 70-2-17, for an order pooling all uncommitted interests in the Bone Spring formation underlying a standard 640-acre, more or less, horizontal spacing unit comprised of the E/2 of Sections 20 and 29, Township 18 South, Range 35 East, Lea County, New Mexico. In support Applicant states:

1. Applicant is a working interest owner in the proposed horizontal spacing unit and has the right to drill thereon.
2. Applicant seeks to initially dedicate the above-referenced spacing unit to the proposed **Ball 183529 2H Well** to be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 32 to a bottom hole location in the NE/4 NE/4 (Unit A) of Section 20.
3. The completed interval for the proposed well will remain within 330 feet of the W/2 E/2 of Sections 20 and 29 to allow inclusion of this offsetting acreage in a standard horizontal well spacing unit.
4. Applicant has sought and been unable to obtain voluntary agreement for the development of these lands from all interest owners in the subject spacing unit.

5. The pooling of interests will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

6. In order to permit Applicant to obtain its just and fair share of the oil and gas underlying the subject lands, all uncommitted interests in this horizontal spacing unit should be pooled, and Applicant should be designated the operator of the proposed well and horizontal spacing unit.

WHEREFORE, Applicant requests that this application be set for hearing before an Examiner of the Oil Conservation Division on July 23, 2020, and, after notice and hearing as required by law, the Division enter an order:

- A. Pooling all uncommitted interests in the horizontal spacing unit and approving the initial well thereon;
- B. Designating Applicant as operator of the horizontal spacing unit and the horizontal wells to be drilled thereon;
- C. Authorizing Applicant to recover its costs of drilling, equipping, and completing the well;
- D. Approving the actual operating charges and costs of supervision while drilling and after completion, together with a provision adjusting the rates pursuant to the COPAS accounting procedures; and
- E. Imposing a 200% charge for the risk assumed by Applicant in drilling and completing the well against any working interest owner who does not voluntarily participate in the drilling of the well.

Respectfully submitted,

HOLLAND & HART LLP

By: 

Michael H. Feldewert

Adam G. Rankin

Julia Broggi

Kaitlyn A. Luck

Post Office Box 2208

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(505) 983-6043 Facsimile

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ATTORNEYS FOR

CATENA RESOURCES OPERATING, LLC

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES
OPERATING, LLC FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO**

CASE NOS. 21356

AFFIDAVIT OF ROBERT SWANN

Robert Swann, of lawful age and being first duly sworn, declares as follows:

1. My name is Robert Swann. I am a Land Manager with Catena Resources Operating, LLC ("Catena").
2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as a petroleum land manager have been accepted by the Division and made a matter of record.
3. I am familiar with the application filed by Catena in this case, and I am familiar with the status of the lands in the subject area.
4. The uncommitted parties have not indicated any opposition to this pooling application, and therefore I do not expect any opposition at the hearing
5. Catena seek an order pooling all uncommitted interests in the Bone Spring formation [960, Airstrip; Bone Spring] underlying a standard 640-acre horizontal spacing unit comprised of the E/2 of Sections 20 and 29, Township 18 South, Range 35 East, Lea County, New Mexico.
6. Catena seeks to initially dedicate this spacing unit to the proposed **Ball 183529 2H** well to be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 32 to a bottom hole location in the NE/4 NE/4 (Unit A) of Section 20. The completed interval for the

**BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico**

Exhibit No. A

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

proposed well will remain within 330 feet of the W/2 E/2 of Sections 20 and 29 to allow inclusion of this offsetting acreage in a standard horizontal well spacing unit.

7. **Exhibit A-1** contains the Form C-102 for the proposed well.

8. **Exhibit A-2** is a general location map outlining the acreage being pooled and the lateral trajectory of the proposed well. The acreage is comprised of state lands.

9. **Exhibit A-3** identifies the tracts of land comprising the proposed spacing unit, the working interest ownership in each tract and their respective interest in the horizontal spacing unit. The mineral owners that remain to be pooled are highlighted on Exhibit A-3.

10. No ownership depth severances exist within in the Bone Spring formation underlying the subject acreage.

11. Catena has conducted a diligent search of company records, county records, telephone directories and conducted computer searches to locate contact information for each of the mineral owners that it seeks to pool.

12. **Exhibit A-4** contains a sample of the letter and AFE for the proposed well sent to the working interest owners that Catena has been able to locate. The costs reflected on the AFE are consistent with what Catena and other operators have incurred for drilling similar horizontal wells in the area in this formation.

13. **Exhibit A-5** contains a chronology of the contacts with the uncommitted mineral owners Catena was able to locate. Catena has made a good faith effort to obtain voluntary joinder of these owners in the proposed wells.

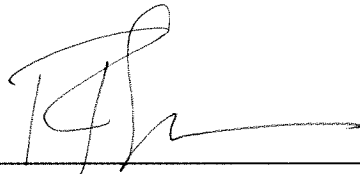
14. **Exhibit A-6** is Catena's notice of the overlapping spacing unit in this case, pursuant to 19.15.16.15.B(9) NMAC, which reflects that all affected working interest owners were provided notice of the overlapping spacing unit. No objection was received within the 20-day time period.

15. Catena requests overhead and administrative rates of \$8,000 per month for drilling and \$800 per month for a producing well. These rates are consistent with the rates charged by Catena and other operators for similar wells in this area.

16. I have provided the law firm of Holland and Hart, LLP, with the names and addresses (where available) of the mineral owners that Catena seeks to pool and instructed that they be notified of this hearing.

17. Exhibits A-1 through A-6 were prepared by me or compiled under my direction from company business records.

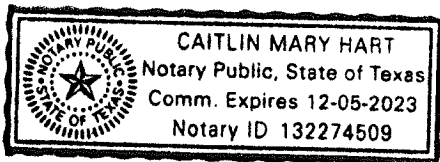
FURTHER AFFIANT SAYETH NAUGHT

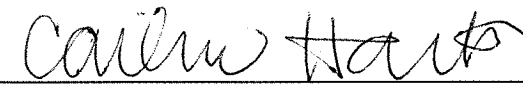


ROBERT SWANN

STATE OF TEXAS)
)
COUNTY OF BEXAR)

SUBSCRIBED and SWORN to before me this 22 day of September 2020 by
Robert Swann.





NOTARY PUBLIC

My Commission Expires:

12/05/2023

15422746_v1

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 960	³ Pool Name Airstrip; Bone Spring
⁴ Property Code	⁵ Property Name Ball 183529	
		⁶ Well Number 2H
⁷ OGRID No. 328449	⁸ Operator Name Catena Resources Operating, LLC	
⁹ Elevation		

¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	32	18S	35E		190'	FNL	1350'	FEL	Lea

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	20	18S	35E		100'	FNL	1250'	FEL	Lea

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code COM	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

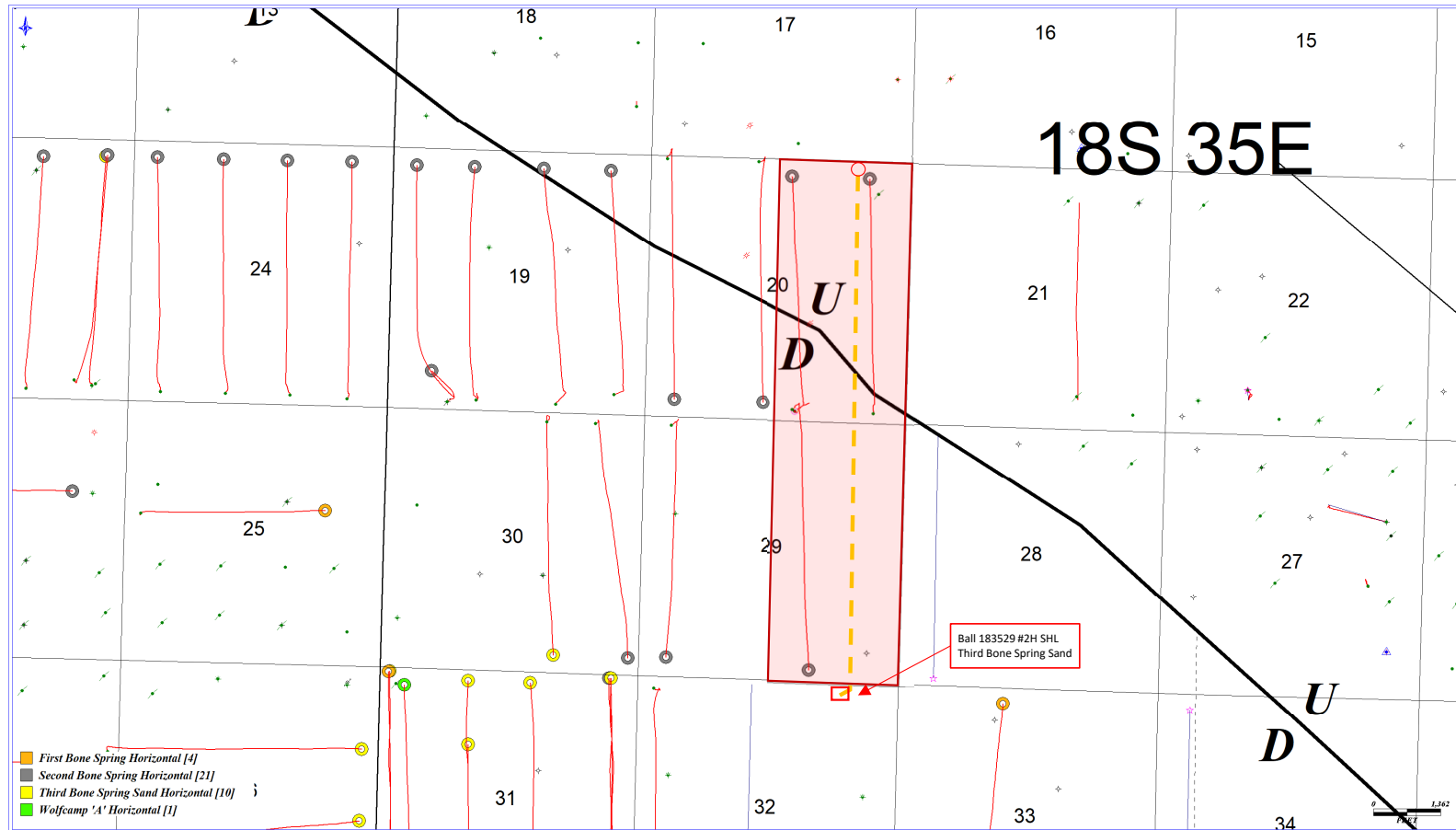
¹⁷ OPERATOR CERTIFICATION									
<i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or work interest, or to a voluntary pooling agreement or an compulsory pooling order heretofore entered by the division.</i>									
Signature					Date				
Printed Name									
E-mail Address									
¹⁸ SURVEYOR CERTIFICATION									
<i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i>									
Date of Survey					Signature and Seal of Professional Surveyor:				
Certificate Number									

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A1

Submitted by: Catena Resources Operating, LLC
Hearing Date: September 24, 2020
Case No. 21356

Ball 183529 #2H

Locator Map



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. A2

1

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

Catena Resources Operating, LLC
Ball 183529 2H - Bone Spring
Case No. 21356

BEFORE THE OIL CONSERVATION
 Santa Fe, New Mexico

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. A3

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

Case No. 21356							
SESE	SWSW	SESW	SWSE	SESE	SWSW	SESW	SWS
NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWN
SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWN
NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWS
SESE	SWSW	SESW	SWSE	SESE	SWSW	SESW	SWS
NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWN
SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWN
NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWS
SESE	SWSW	SESW	SWSE	SESE	SWSW	SESW	SWS
NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWN
SENE	SWNW	SENW	SWNE	SENE	SWNW	SENW	SWN
NESE	NWSW	NESW	NWSE	NESE	NWSW	NESW	NWS
SESE	SWSW	SESW	SWSE	SESE	SWSW	SESW	SWS
NENE	NWNW	NENW	NWNE	NENE	NWNW	NENW	NWN

Unit Size	Ball 183529 2H - Bone Spring - Case No. 21356			
640				
WI Owner	Tract No	Tract Gross	Tract WI	Tract NMA
Catena Resources Operating	1	320	87.50%	280.000
T.H. McElvain Oil & Gas, LLLP	1	320	12.50%	40.000
Marathon Oil Permian LLC	3	320	100.00%	320.000
Tract Totals				640.000

WI Owner	Unit WI	Unit NMA
Catena Resources Operating	43.75%	280.000
T.H. McElvain Oil & Gas, LLLP	6.25%	40.000
Marathon Oil Permian LLC	50.00%	320.000
Unit Totals	100.00%	640.000



June 10, 2020
Via Certified Mail

Re: **Ball 183529 1H Well Proposal**
 Wolfcamp Formation
 E2 of Section 20 T18S, 35E, and Section 29, T18S, R35E
 Lea County, New Mexico

Ball 183529 2H Well Proposal
Bone Springs Formation
E2 of Section 20 T18S, 35E, and Section 29, T18S, R35E
Lea County, New Mexico

Ladies and Gentlemen,

Catena Resources Operating, LLC ("Catena") as Operator hereby proposes to drill the following wells to a depth sufficient to test the Wolfcamp and Bone Spring formations:

Well Name	SHL Sec. 32	BHL Sec. 20	Spacing Unit 640 Acres	Target TVD	Estimated TMD
Ball 183529 1H Wolfcamp Formation	FNL: 190' FEL: 1250'	FNL: 100' FEL: 1250'	E/2 of Section 20, T18S, 35E and E/2 of Section 29, T19S, R35E	9,755'	20,469'
Ball 183529 2H Bone Spring Formation	FNL: 190' FEL: 1350'	FNL: 100' FEL: 1250'	E/2 of Section 20, T18S, 35E and E/2 of Section 29, T19S, R35E	9,570'	20,284'

These proposed locations and target depths are subject to change depending on any surface or subsurface concerns encountered.

Regarding the above, enclosed for your further handling are our AFE's dated April 16, 2020 for the proposed wells. The AFE's represent an estimate of the costs that will be incurred to drill and complete the wells, but those electing to participate in the wells are responsible for their proportionate share of the actual costs incurred. In the event you elect to participate in the proposed wells, please execute the enclosed AFE's and return to me. We are happy to furnish you with a proposed Joint Operating Agreement upon request. Please respond within 30 days of receiving this notice. If you do not wish to participate, Catena proposes to acquire your interest via term assignment subject to due diligence and title verification satisfactory to Catena.

Should you have any questions regarding the above, please email me at rswann@catenares.com or call me at (210) 775-6993.

Sincerely,

Catena Resources Operating, LLC

Robert Swann

Land Manager

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A4

Submitted by: Catena Resources Operating, LLC
Hearing Date: September 24, 2020
Case No. 21356



<div><div></div><div>ATENA RESOURCES</div></div>				WELL COST ESTIMATE						AFE NO.	
WELL NAME: Ball 183529 2H				DATE: 16-Apr-20							
FIELD NAME:				START DATE:							
LOCATION: 2 sec. lateral,				COMPLETE DATE:							
COUNTY / ST: Lea County, NM				ORIGINAL: x							
OBJECTIVE: Bone Spring				SUPPLEMENT:							
INTANGIBLE COSTS				ACCT CODE	DRILLING - 310XX	ACCT CODE	COMPLETION - 320XX	ACCT CODE	FACILITIES - 330XX	TOTAL	
Legal Fees / Title Opinion				31001	\$50,000	32001	\$0	33001	\$0	\$50,000	
Surveys / Staking / Permits / Bonds / Regulatory				31002	\$25,700	32002	\$0	33002	\$0	\$25,700	
ROW / Surface Damages				31003	\$60,000	32003	\$0		\$0	\$60,000	
Roads & Location / Reserve Pit - Construction				31004	\$90,000	32004	\$0		\$0	\$90,000	
Roads & Location / Reserve Pit - Reclamation				31005		32005	\$0		\$0	\$0	
Frac Pond				31006		32006	\$0		\$0		
Gate Guard				31007		32007	\$0		\$0	\$0	
Mouse / Rathole / Conductor				31008	\$19,000		\$0		\$0	\$19,000	
Mobilization / Demobilization				31009	\$230,675	32008	\$0		\$0	\$230,675	
Drilling - Daywork				31010	\$475,000		\$0		\$0	\$475,000	
Drilling - Footage				31011			\$0		\$0	\$0	
Drilling - Turnkey				31012			\$0		\$0	\$0	
Completion / Snubbing / Workover Unit				31013		32009	\$40,000		\$0	\$40,000	
Trailer House / Communications				31014	\$43,572	32010	\$24,200		\$0	\$67,772	
Drill Bits				31015	\$85,000	32011	\$0		\$0	\$85,000	
Directional Equipment / Gyro Surveys				31016	\$225,000	32012	\$0		\$0	\$225,000	
Downhole Tool / Stabilization Rental				31017	\$57,075	32013	\$34,000		\$0	\$91,075	
Mud / Chemicals				31018	\$200,000	32014	\$601,500		\$0	\$801,500	
Fuel / Power				31019	\$104,500	32015	\$471,800		\$0	\$576,300	
Water Supply Well, equipment				31020	\$3,603	32016	\$0		\$0	\$0	
Water / Water Hauling				31021		32017	\$816,550		\$0	\$816,550	
Offsite Water & Cuttings Disposal				31022	\$243,056	32018	\$30,500		\$0	\$273,556	
Transportation / Hauling				31023	\$31,000	32019	\$0	33009	\$15,000	\$46,000	
Inspection / Tubular Testing				31024	\$95,654	32020	\$0		\$0	\$95,654	
Laydown Machine / Casing Crew / Tongs				31025	\$58,245	32021	\$0		\$0	\$58,245	
Cementing, Float Equipment & Services				31026	\$62,458	32022	\$0		\$0	\$62,458	
Mud Logging				31027	\$35,343		\$0		\$0	\$35,343	
Logging - Open Hole				31028		32023	\$0		\$0	\$0	
Logging - Cased Hole				31029		32024	\$13,000		\$0	\$13,000	
Coring & Analysis, Drill Stem Test				31030			\$0		\$0	\$0	
Perforating				31031		32025	\$421,200		\$0	\$421,200	
Wireline / Slickline Services				31032		32026	\$15,000		\$0	\$15,000	
Equipment Rental				31033	\$149,580	32027	\$236,000		\$0	\$385,580	
Pumping Services/Rental				31034		32028	\$21,000		\$0	\$0	
Acidizing & Fracturing				31035		32029	\$2,175,000		\$0	\$2,175,000	
Coil Tubing Unit				31036		32030	\$120,000		\$0	\$120,000	
Flow Testing, Swabbing				31037		32031	\$95,875		\$0	\$95,875	
Fishing / Sidetrack Services				31038		32032	\$0		\$0	\$0	
Nipple Up / BOPE Testing				31039	\$6,400	32033	\$23,000		\$0	\$29,400	
Overhead				31040	\$8,000	32034	\$19,500		\$0	\$27,500	
Wellsite Consulting Services/Supervision				31041	\$159,861	32035	\$153,950	33003	\$20,000	\$333,811	
Engineering / Geological / Lab Service Tracers and diagnostics				31042	\$25,000	32036	\$35,500		\$15,000	\$75,500	
Roustabout / Contract Labor				31043	\$8,480	32037	\$0	33004	\$160,000	\$168,480	
Welding Services				31044	\$5,120	32038	\$0		\$0	\$5,120	
Insurance				31045	\$10,000	32039	\$0	33005	\$0	\$10,000	
Miscellaneous				31046		32040	\$0	33006	\$0	\$0	
P&A Costs				31047		32041	\$0		\$0	\$0	
Safety / EH&S				31048		32042	\$6,610	33007	\$0	\$6,610	
5.5% Contingency (8% Taxes on Casing included in casing cost)				31049	\$141,202	32043	\$311,200		\$10,500	\$462,902	
NON-Op Drilling Intangible				31050		32044	\$0		\$0	\$0	
Pipeline Installation / Interconnect				31051		32045	\$0	33008	\$0	\$0	
TOTAL INTANGIBLE COSTS					\$2,708,524		\$5,665,385		\$220,500	\$8,594,409	
TANGIBLE COSTS				ACCT CODE	DRILLING - 311XX	ACCT CODE	COMPLETION - 321XX	ACCT CODE	FACILITIES - 331XX	TOTAL	
Conductor				31101							
Surface Casing				31102	\$68,600					\$68,600	
1st Intermediate Casing / Liner				31103	\$113,200					\$113,200	
2nd Intermediate Casing / Liner				31104						\$0	
Production Casing / Liner						32101	\$373,500			\$373,500	
Casing Tie Back						32102					
Liner Hanger Assembly						32103					
Tubing						32104	\$58,500			\$58,500	
Casing Equipment - OHMS / Etc.						32105	\$31,200			\$31,200	
Wellhead Equipment						32106	\$27,000			\$53,750	
Pumping Unit / Prime Mover / Base				31105	\$26,750	32107	\$0	33101	\$0	\$0	
Rods / Pony Rods / Sinker Bars						32108	\$0	33102	\$0	\$0	
Artificial Lift Other - Gas Lift						32109	\$14,000	33103	\$0	\$14,000	
Wellhead Equipment Completions - Production Tree						32110	\$42,000	33104	\$0	\$42,000	
Tanks / Tank Steps / Stairs						32111	\$0	33105	\$66,000	\$66,000	
Gas Treating / Dehydration Equipment						32112	\$0	33106	\$0	\$0	
Separation Equipment, Heater Treater						32113	\$0	33107	\$68,200	\$68,200	
Surface Pumps						32114	\$0	33108	\$3,000	\$3,000	
Filters						32115	\$0	33109	\$0	\$0	
Buildings						32116	\$0	33110	\$0	\$0	
Interconnect Piping / Manifolds / Headers						32117	\$0	33111	\$60,000	\$60,000	
Flowlines / Connections / Valves						32118	\$0	33112	\$46,960	\$46,960	
Automation / Instruments / Controls / Analyzers						32119	\$0	33113	\$16,000	\$16,000	
Electrical Equipment / Generators						32120	\$0	33114	\$52,000	\$52,000	
Compressor & Related Equipment						32121	\$0	33115	\$0	\$0	
Metering Equipment, LACT Unit						32122	\$0	33116	\$104,000	\$104,000	
Chemical Equipment / Cathodic Protection						32123	\$0	33117	\$0	\$0	
Subsurface Equipment - Packer, Plugs, TAC						32124	\$11,000	33118	\$0	\$11,000	
Safety / EH&S Equipment						32125	\$4,000	33119	\$18,000	\$22,000	
NON-OP Drilling Intangible						32126	\$0	33120	\$0	\$0	
Transfer/SWD Pumps & Equipment						32127	\$0	33121	\$19,060	\$19,060	
Flare / Combustor						32128	\$0	33122	\$16,000	\$0	
Miscellaneous				31106		32129	\$24,410	33123	\$0	\$24,410	
Contingency Costs				31107	\$11,690	32130	\$28,060	33124	\$0	\$39,750	
TOTAL TANGIBLE COSTS					\$220,240		\$613,670		\$469,220	\$1,303,130	
TOTAL WELL COSTS					\$2,928,764		\$6,279,055		\$689,720	\$9,897,539	
Prepared by Travis Salinas Title: Engineer											
This AFE is only an estimate. By returning one signed copy, you agree to pay your share of the actual costs incurred.											
Extra Expense Insurance											
<input type="checkbox"/> I elect to be covered by Operator's Extra Expense insurance and pay my proportionate share of the premium.											
<input type="checkbox"/> I elect to purchase my own well control insurance policy.											
Either box is checked above, non-operating working interest owner elects to be covered by Operator's well control insurance											
Joint Owner Interest: Amount:											
Joint Owner Name: Signature:											

Catena Resources Operating, LLC – Discussion Timeline

Wells

Ball 183529 2H

Catena's conversations with Marathon began on December 6, 2019. From that time on, multiple emails, phone calls, proposals and letters were exchanged. The main contact at Marathon is Jeff Broussard and as of August 3, 2020, dealings with Marathon are ongoing.

15429892_v1

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. A5

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

**TO ALL WORKING INTEREST OWNERS IN THE ACREAGE AFFECTED BY PROPOSED
OVERLAPPING SPACING UNIT**

Re: Notice of Overlapping Spacing
Bone Spring Formation
640 Acres, E/2 Section 20, 18S,35E & E/2 Section 29, 18S,35E
Lea County, New Mexico

To Whom It May Concern:

This letter is to advise you that Catena Resources Operating, LLC has proposed to drill the following well in the Bone Springs formation:

Ball 183529 2H
3rd Bone Spring Sand Interval
Approximate Depth: 10,384’
SHL: 190’ FNL, 1350’ FEL, Sec. 32, 18S, 35E
BHL: 100’ FNL, 1250’ FEL, Sec. 20, 18S, 35E

This well will be dedicated to a 640-acre spacing unit comprised of the following acreage: E/2 Section 20, 18S, 35E & E/2 Section 29, 18S, 35E, Lea County, New Mexico.

This proposed 640-acre spacing unit will overlap the following spacing unit(s) containing the listed existing wells:

Spacing Unit	Section	T-R	Well	Well No.	API	Pool	Depth
W2E2	20	18S 35E	Ironhouse 20	1H	30-025-40611	WC-025; Bone Spring	9,279’
E2E2	20	18S 35E	Ironhouse 20	2H	30-025-40748	WC-025; Bone Spring	9,310’
W2E2	29	18S 35E	Nighthawk	3H	30-025-41950	Airstrip; Bone Spring	9,925’

Pursuant to NMAC 19.15.16.15.B(9) and 19.15.15.12.B, you have a right to object this overlapping spacing unit by delivering a written statement of objection to our office within twenty (20) days of the mailing of this notice. If no objection is received within this 20-day period, we will proceed with drilling the initial wells within this overlapping spacing unit.

If you have any questions about this matter, please contact my office.

Sincerely,

Robert Swann
Land Manager
18402 Hwy 281, Suite 258
San Antonio, Texas 78259
Direct: (210) 775-6993
rswann@catenares.com

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A6
Submitted by: Catena Resources Operating, LLC
Hearing Date: September 24, 2020
Case No. 21356

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES
OPERATING, LLC FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO**

CASE NOS. 21356

AFFIDAVIT OF VINCE SMITH

Vince Smith, of lawful age and being first duly sworn, declares as follows:

1. My name is Vince Smith. I work for Catena Resources Operating, LLC (“Catena”) as a Geologist.
2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum geology. My credentials as a petroleum geologist have been accepted by the Division and made a matter of record.
3. I am familiar with the application filed by Catena in this matter and I have conducted a geologic study of the lands in the subject area.
4. Catena is initially targeting the Third Bone Spring Sand interval of the Bone Spring formation. **Exhibit B-1** is a subsea structure map that I prepared for this interval with 25-foot contours. The proposed horizontal well spacing unit is highlighted in red and the initial well is depicted with a dashed line. The structure map shows the Bone Spring formation dipping to the south. The dark line between the notations “D” and “U” represents a deeper structure that caused the shallower formations to sit high. The notations “D” and “U” refer to “downthrown” and “upthrown” side of the deep structure faulting. The structure appears consistent across the proposed spacing unit and I do not observe any faulting, pinch outs, or other geologic impediments to drilling horizontal wells in this area.

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. B

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

5. Exhibit B-1 also shows a cross-section line in red running north to south reflecting four wells penetrating the Bone Spring formation that I used to construct a stratigraphic cross-section from A to A'. These wells contain good logs and I consider them representative of the geology in the subject area.

6. **Exhibit B-2** is a stratigraphic cross-section that I prepared using the logs from the wells noted on Exhibit B-1. Three of the four wells in the cross-section contains the gamma ray in the first track, resistivity in the second track and porosity curves in the third track. The initial target interval is labeled and marked. The cross-section demonstrates that the targeted interval is continuous across the proposed spacing unit.

7. Based on my geologic study, the Bone Spring formation underlying the subject area is suitable for development by horizontal wells and the acreage comprising the proposed spacing unit will be productive and contribute proportionately to the production from the well.

8. **Exhibit B-1** also shows the orientation of the wells drilled in the Bone Spring formation in the surrounding area. The stand-up orientation of the proposed well is the preferred orientation for horizontal well development in this area and is appropriate to efficiently and effectively develop the subject acreage.

9. In my opinion, the granting of Catena's application is in the best interest of conservation, the prevention of waste, and protection of correlative rights.

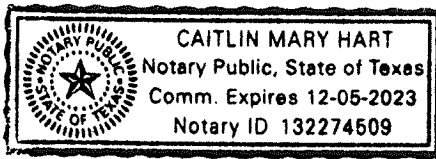
10. **Exhibits B-1** through **B-2** were either prepared by me or compiled under my direction and supervision.

FURTHER AFFIANT SAYETH NOT.

Vince Smith
VINCE SMITH

STATE OF TEXAS)
)
COUNTY OF BEXAR)

SUBSCRIBED and SWORN to before me this 22 day of September 2020 by Vince Smith.



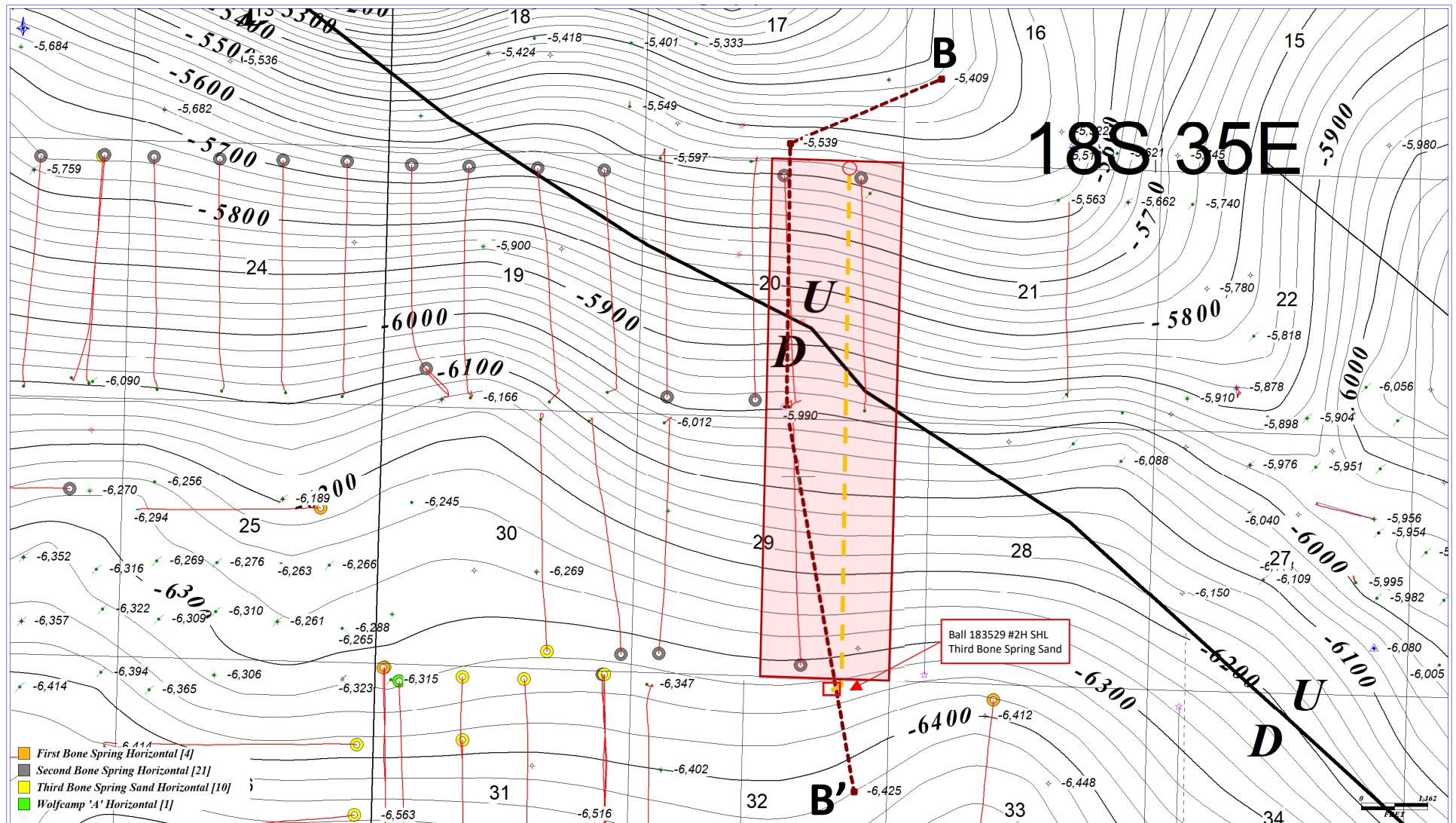
Caitlin Hart
NOTARY PUBLIC

My Commission Expires:

12/05/2023

Third Bone Spring Sand

Subsea Structure



Contour Interval = 25'

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. B1

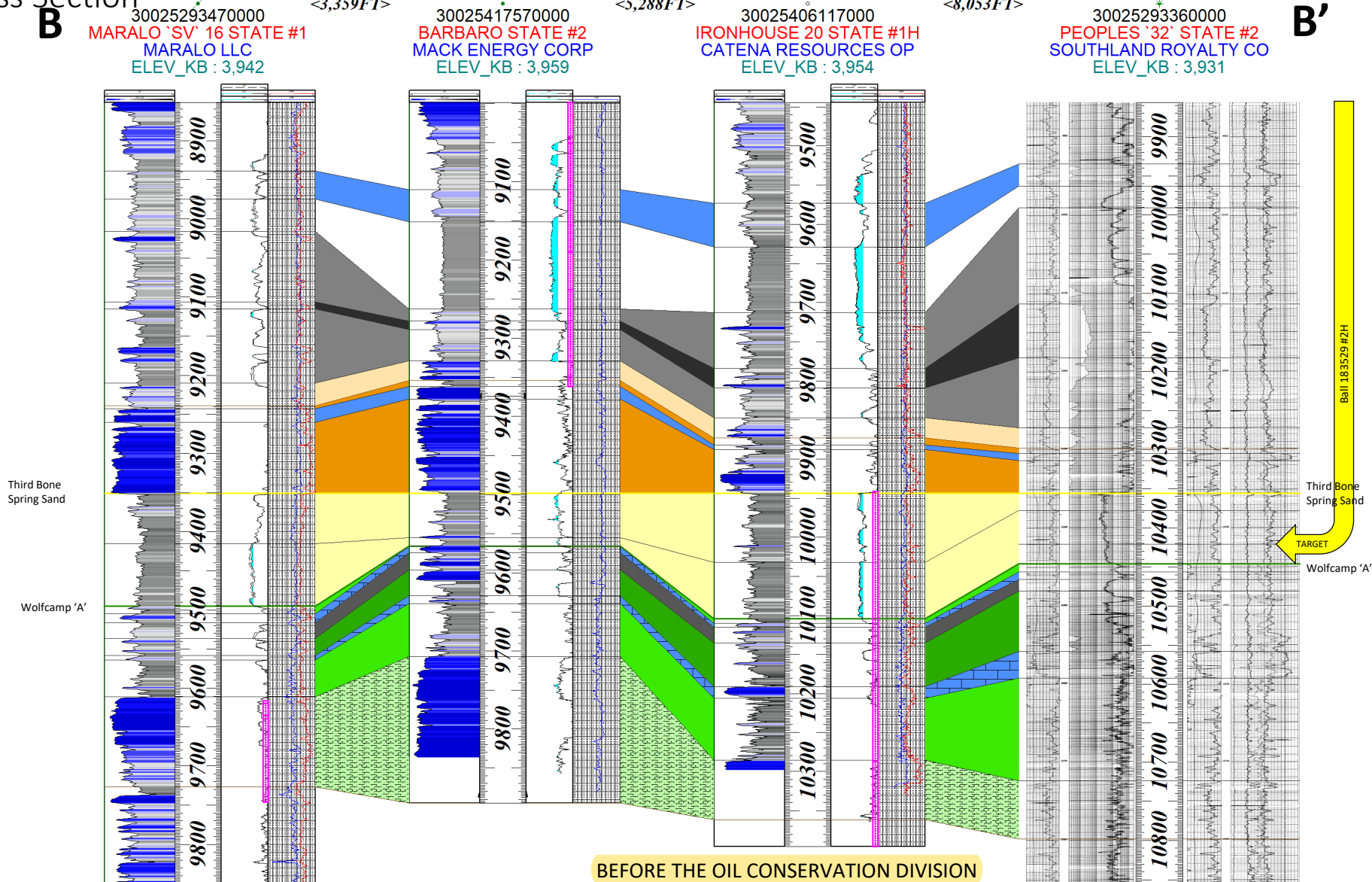
Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356

Third Bone Spring Sand Datum

Cross Section



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. B2

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356



**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES
OPERATING, LLC FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO.**

CASE NO. 21356

AFFIDAVIT

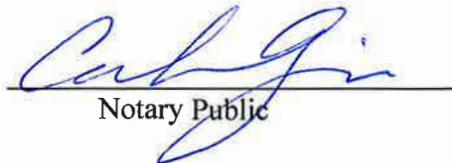
STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Kaitlyn A. Luck, attorney in fact and authorized representative of Catena Resources Operating, LLC the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application has been provided under the notice letters and proof of receipts attached hereto.



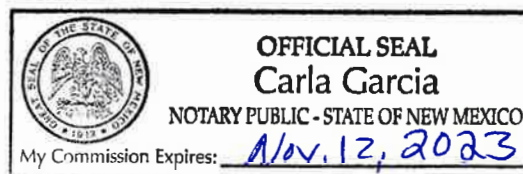
Kaitlyn A. Luck

SUBSCRIBED AND SWORN to before me this 22nd day of September, 2020 by Kaitlyn A. Luck.


Notary Public

My Commission Expires:

Nov. 12, 2023



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. C

Submitted by: Catena Resources Operating, LLC

Hearing Date: September 24, 2020

Case No. 21356



Michael H. Feldewert
Phone (505) 988-4421
Fax (505) 983-6043
mfeldewert@hollanhart.com

July 17, 2020

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

TO: ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS

Re: Application of Catena Resources Operating, LLC for Compulsory Pooling, Lea County, New Mexico.
Ball 183529 2H Well

Ladies & Gentlemen:

This letter is to advise you that COG Operating Inc. has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on August 6, 2020, and the status of the hearing can be monitored through the Division's website at <http://www.emnrd.state.nm.us/ocd/>. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from subsequently challenging this matter.

During the COVID-19 Pubic Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. To participate in the electronic hearing, see the instructions posted on the Oil Conservation Division "OCD Hearings" website at <http://www.emnrd.state.nm.us/OCD/announcements.html>.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter, please contact Robert Swann at (210) 775-6993 or at rswann@catenares.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael H. Feldewert".

Michael H. Feldewert
ATTORNEY FOR CATENA RESOURCES OPERATING,
LLC

Catena - Ball 2H
Case Nos. 21355-21356 - Postal Delivery Report

9414811898765825959773	Marathon Oil Permian LLC	P.O. Box 2069	Houston	TX	77252	Your item was delivered at Jul 22 in HOUSTON,TX 77210.
9414811898765825959919	McElvain Energy	1600 Stout Street	Denver	CO	80202	Delivered to Agent for Final Delivery at Jul 20 in DENVER,CO 80202.
9414811898765825959957	Loy G. Fletcher	P.O. Box 852	Artesia	NM	88211	Mail piece was scanned in ZIP code 88211 on Jul 27